


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, May 2024</b>			
<b>Course: Software Testing and Reliability</b> <b>Program: B. Tech CSE</b> <b>Course Code: CSEG 4014P</b>		<b>Semester : VIII</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions:</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	Define error, defects, faults, and failure in software.	4	CO1
Q 2	How the software testing impact the final products and its quality?	4	CO2
Q 3	Discuss stress testing and scalability testing.	4	CO2
Q 4	How the software reliability coins with probability? Write down four probability distribution functions.	4	CO3
Q 5	Discuss the dynamic testing tools.	4	CO4
<b>SECTION B</b> <b>(4Qx10M= 40 Marks)</b>			
Q 6	Discuss the relationship between software fault and software failure. Also discuss the bathtub curve.	10	CO1
Q 7	Derive the equation of maintainability and availability mathematically.	10	CO3
Q 8	Discuss binomial distribution function. Suppose in the production of lightbulbs, 90% are good. In a random sample of 20 lightbulbs, what is the probability of obtaining at least 18 good lightbulbs?	4+6=10	CO3
Q 9	Briefly discuss verification and validation model in project management.  OR  How it is impractical to test all data and paths, how it will impact the project management? Discuss proof of correctness of software.	10	CO4
<b>SECTION-C</b> <b>(2Qx20M=40 Marks)</b>			
Q 10	Discuss the black box and white box testing approaches. Explain equivalence class partitioning and boundary value analysis with suitable example.	20	CO2

Q 11	<p>Write down short notes on following terms:</p> <p>a) Testing and Debugging      b) Acceptance and Integration testing  c) Normal Distribution          d) Agile Methodology</p> <p style="text-align: center;">OR</p> <p>a) Binomial Distribution      b) Quality Assurance  b) Modern testing Tools      d) Test Organization</p>	<b>4x5=20</b>	<b>CO1, CO2, CO3</b>
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